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IS 15690 (2006): Dry salted bamboo shoot [FAD 10: Processed Fruits and Vegetable Products]



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भारतीय मानक
शुष्क, नमक लगे बाँस के कोमल टुकड़े — विशिष्टि

Indian Standard

DRY SALTED BAMBOO SHOOT — SPECIFICATION

ICS 67.080.20

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Processed Fruits and Vegetables Products Sectional Committee had been approved by the Food and Agriculture Division Council.

Bamboo shoot is rich in vitamins, cellulose, amino acids and trace elements and has the same nutritional value as an onion and is a good source of fibre. Bamboo shoot comprises 90 percent water. Bamboos shoots are traditionally consumed more often as a fresh vegetable during their season of availability and are preserved conventionally as salted, fermented and dried products in the North-East regions of India and as salted and pickled products in the Western Ghats of Karnataka. The preservation and processing methods used for bamboo shoots are dry salting, wet salting/preservation in brine, canning and drying.

Formulation of National Standards on various types of processed bamboo shoots would assist in the manufacture and sale of standardized, nutritious and hygienically processed products. Separate Indian Standards are being formulated to cover the requirements of canned bamboo shoots, dehydrated bamboo shoots, dry salted bamboo shoots, bamboo shoots in brine and bamboo shoots in plain water. This standard covers the requirements and methods of test for dry salted bamboo shoots.

Due consideration has been given to the *Prevention of Food Adulteration Rules, 1955* and *Standards of Weights & Measures (Packaged Commodities) Rules, 1977*. However, this standard is subject to restrictions imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

DRY SALTED BAMBOO SHOOT — SPECIFICATION

1 SCOPE

This standard prescribes the requirements and the methods of test for dry salted bamboo shoot.

2 REFERENCES

The standards listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
2491 : 1998	Food hygiene — General principles — Code of practice (<i>second revision</i>)
2860 : 1964	Methods of sampling and test for processed fruits and vegetables
6542 : 1972	Code for hygienic conditions for fruit and vegetable canning units
7224 : 2006	Iodized salt — Specification (<i>second revision</i>)
7732 : 2003	Apple juice preserved exclusively by physical means — Specification (<i>first revision</i>)
10171 : 1999	Guide on suitability of plastics for food packaging (<i>second revision</i>)

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Sliced Round Thin Bamboo Shoot — Bamboo shoot sliced round transversely/horizontally into thin pieces more than 10 mm thickness and mixed with dry salt.

3.2 Shredded Bamboo Shoot — Whole bamboo shoot shredded into thin pieces less than 10 mm thickness and mixed with dry salt.

3.3 Bamboo Shoot Slivers — Bamboo shoot slivers of thin pieces and mixed with dry salt.

3.4 Other Optional Styles — Other forms not specifically described in 3.1 to 3.3 of any commercially practical shape, like random sliced, chopped, etc, should be appropriately

described on the label. However, the size of the product should be thin enough for the uniform distribution of salt on both, outside and inside of the product.

3.5 Mixture — Dry and crystalline salt is added to the cut bamboo shoot at 15 to 18 percent of the weight of bamboo shoot and thoroughly mixed for the proper contact and uniform distribution with the product.

3.6 Absence of Defects — The product shall be free from extraneous material, such as remnants of peel and other inedible foreign matter and also freedom from damage due to mechanical injury.

3.7 Blemished Units — Units that are blemished with some injury caused by handling, insect damage, physiological damage, injury caused during transportation, black spots or enzyme activity on the surface or any other abnormality readily visible to the naked eye to a noticeable degree.

4 REQUIREMENTS

4.1 Hygienic Requirements

The material shall be prepared and handled under strict hygienic conditions, which have been laid down in IS 2491. All workers should use clean, sterilized hand gloves as per IS 6542 for the purpose of mixing bamboo shoots with dry and crystalline salt.

4.2 General Requirements

Bamboo shoot shall be prepared from selected, fresh, washed, clean and firm shoots of suitable variety. These shoots shall be practically free from blemishes and extraneous matter.

4.3 The product should be free from artificial colouring matter and flavouring agents.

4.3.1 The product may, however, contain natural spices, spice oils, aromatic herbs and their natural extracts, natural aromas and seasoning.

4.4 Styles

The product may be presented in any one of the following styles defined under 3:

- a) Sliced round thin,
- b) Shredded,

- c) Slivers, and
- d) Other optional styles.

4.5 Types of Pack

Regular pack of dry salted bamboo shoot.

4.6 Requirements for Covering Media

Bamboo shoot should be packed in dry and crystalline salt conforming to IS 7224. The percentage of salt in the final product shall be not less than 10 percent.

4.7 Requirement of the Finished Product

Packed bamboo shoot on opening shall display the following characteristics:

4.7.1 Colour

The product should possess a healthy and practically uniform colour, practically free from black spots or any other discoloration due to oxidation and other causes. Uneven distribution of pigments and changes in colour normally associated with proper processing shall not be considered as defects.

4.7.2 Texture and Uniformity of Size

The product shall possess a good texture, which means that the product shall be just firm but not hard or unduly soft and shall be characteristic of bamboo shoot. The product shall be practically uniform in size.

4.7.3 Flavour and Odour

Bamboo shoot shall be free from flavours and odours foreign to the product and their taste should be characteristic to the shoots used. However, due to the addition of the salt the product can have a salty flavour.

4.7.4 Absence of Defects

The product shall be practically free from defects. The product should be virtually free from peel, transportation damage and any other foreign material adhering to or excluded in the product.

4.7.5 The product shall not contain the metallic contaminants in excess of the quantities specified in Table 1.

4.8 Microbial Requirements

When tested by the method prescribed in 18 of IS 2860 the product shall be: (a) free from micro-organisms capable of development under normal conditions of storage, and (b) shall not contain substances originating from micro-organisms that may represent a hazard to health.

5 PRE-PACKING TREATMENT

The bamboo shoot after removal of the outer sheath should be held in water for 12 to 15 h or boiled in water for a total period of 30 min with a change of water after every 10 min of boiling. This treatment is necessary to leach out the bitter components present in raw bamboo shoot.

6 PACKING AND MARKING

6.1 Packing

The bamboo shoot after being treated as described in 5 should be washed thoroughly and packed as soon as possible but not later than 12 h. The product shall be packed in foodgrade sanitized plastic containers (see IS 10171) or glass containers or in any other food grade packing material as agreed to between the purchaser and the supplier. The product should be sealed as quickly as possible. The packaging container should be inert to the corrosive action of salt.

Table 1 Metallic Contaminants of Dry Salted Bamboo Shoot
(Clause 4.7.5)

Sl No.	Characteristics	Requirements	Method of Test, Ref to	
			Clause No. of IS 2860 (4)	Annex of IS 7732 (5)
(1)	(2)	(3)	(4)	(5)
i)	Arsenic, mg/kg, <i>Max</i>	0.5	13	—
ii)	Lead, mg/kg, <i>Max</i>	1.0	14	—
iii)	Copper, mg/kg, <i>Max</i>	5.0	15	—
iv)	Zinc, mg/kg, <i>Max</i>	5.0	16	—
v)	Tin, mg/kg, <i>Max</i>	250	17	—
vi)	Iron, mg/kg, <i>Max</i>	15	—	B

6.2 Marking

Each pack shall be marked with the following particulars:

- a) Name, type and style of the product with the brand name, if any;
- b) Indication of the source of manufacture;
- c) Net content in g;
- d) Month and year of manufacture;
- e) Batch or code number, if any;
- f) List of ingredients in descending order;
- g) List of additives, if used;
- h) The words 'Best before' (Month and year to be indicated);
- j) Manufacturing licence number; and
- k) Any other details required under the *Standards of Weights & Measures (Packaged Commodities)*

Rules, 1977 and Prevention of Food Adulteration Rules, 1955.

6.3 BIS Certification Marking

The product may also be marked with the Standard Mark.

6.3.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards

7 SAMPLING

Representative samples of the product shall be drawn and tested for conformity to this standard by the methods prescribed in IS 2860.

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Amendments Issued Since Publication

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